



PATENT ABSTRACTS OF JAPAN

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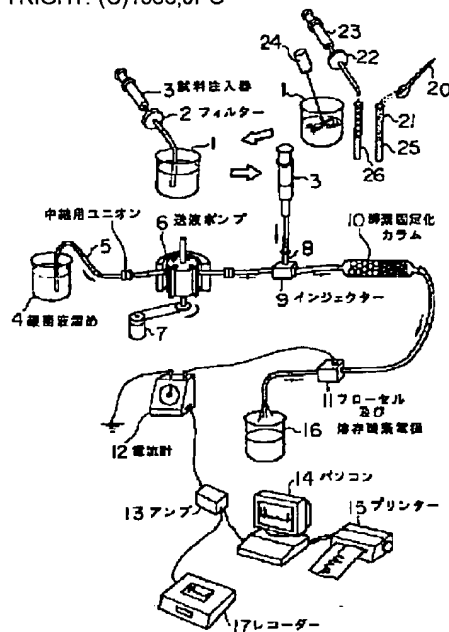
C12Q 1/40**C12Q 1/26****G01N 30/16****// G01N 35/08**(21) Application number: **06223323**(22) Date of filing: **19.09.94**(71) Applicant: **NISSHIN FLOUR MILLING CO LTD
KARUBE MASAO**(72) Inventor: **KOMATSU TAKASHI
OGINOYA RYUICHI
SAKAI KUNIKO
KARUBE MASAO****(54) METHOD FOR MEASURING ACTIVITY OF
AMYLASE WITH FLOW INJECTION****(57) Abstract:**

PURPOSE: To accurately measure the activity of the amylase in a short time by treating starch with amylase, treating the maltose-produced solution with glucoamylase by a flow injection analysis method, oxidizing the treated product, and subsequently measuring the amount of the consumed oxygen with electrodes.

CONSTITUTION: The method for measuring the activity of the amylase by a flow injection analysis method comprises charging the wheat flour of specimen into a test tube 21 with a spoon 20, adding an acetic acid buffer solution 25 into the test tube 21, stirring the mixture with a mixer 24, filtering the treated mixture, charging the filtrate into a syringe 23, adding the charged filtrate into an amylase solution through a filter 22 disposed at the tip of the syringe, adding the mixture into a reaction container 1 in which the acetic acid buffer solution of wheat flour is charged, thus hydrolyzing the starch at 30°C for 10min, injecting the hydrolysis solution with a specimen injector 3 into an acetic acid buffer solution flow flowing through a Teflon tube 5 with a constant delivery pump 6 in an injector 9 for measuring the amount of the produced maltose by the flow injection analysis method, allowing the buffer solution flow to pass through a column 10 charged with immobilizing enzymes comprising

glucoamylase and glucose oxidase, oxidizing the produced glucose, and subsequently measuring the amount of the consumed oxygen with a dissolved oxygen electrode 11 in a flow cell to measure the activity of the amylase.

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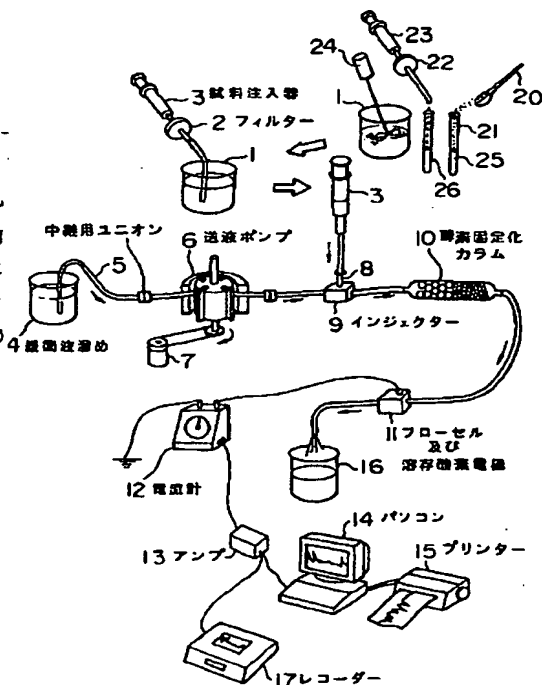
弁理士 鈴木 弘男

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(54) 【発明の名称】 フローインジェクションを用いたアミラーゼ活性測定法

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または

B・アミラーゼ

グルコアミラーゼ

澱粉 + 水 \longrightarrow β ・マルトース + 水 \longrightarrow β ・D・グルコース

グルコースオキシターゼ

+ 酸素 \longrightarrow グルコノ・ δ ・ラクトン + 過酸化水素

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 パルオキシターゼ

過酸化水素+ルミノール→アミノフタル酸+水+窒素+発光

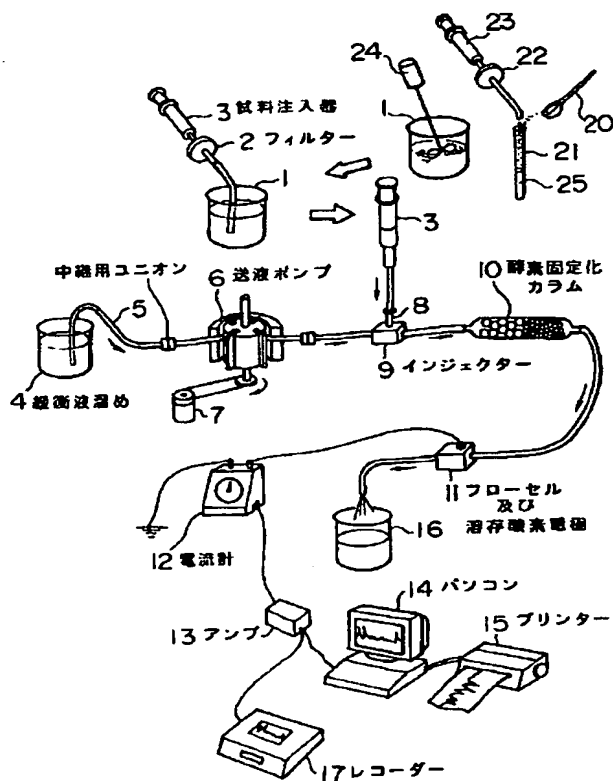
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25 (0.1 mol/l、pH=5.5) 2 ml を加えて、1 分間試験管用

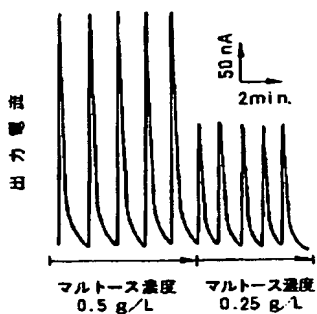
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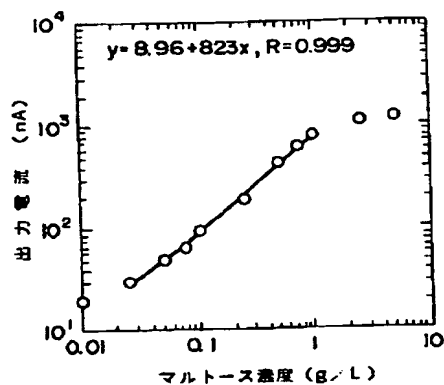


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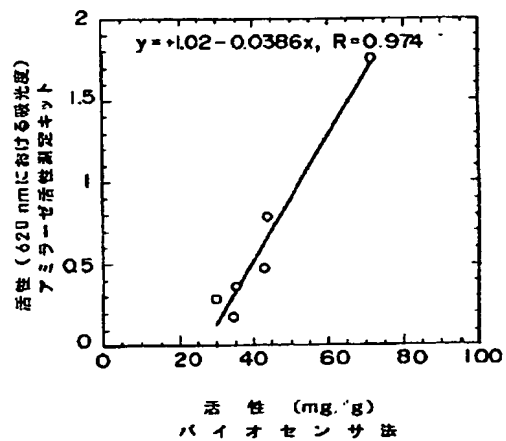


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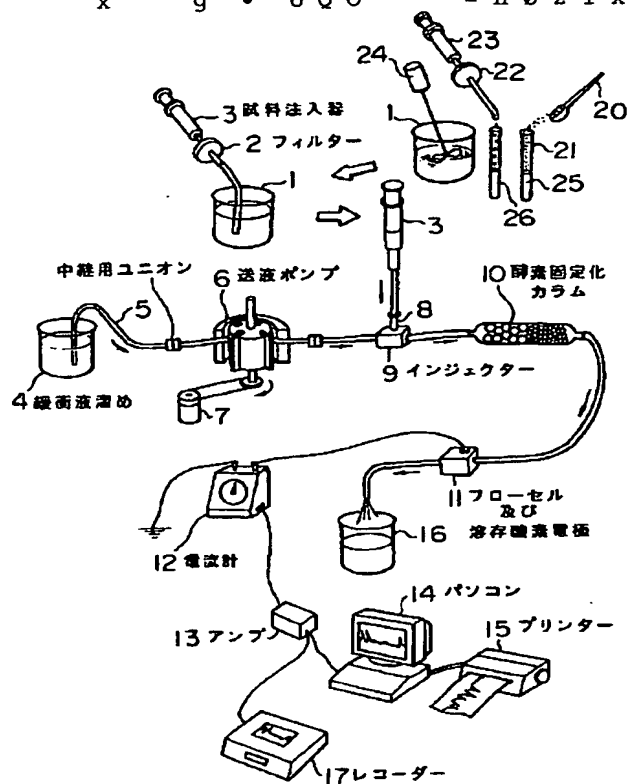


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